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ABSTRACT

A study investigated the relationships between anxiety experienced by students in the second language classroom (usually associated with test anxiety, fear of negative evaluation, and communication apprehension), irrational thoughts associated with these anxieties, and classroom achievement among three groups of language learners. The Foreign Language Classroom Anxiety Scale and Irrational Beliefs Test were administered to 94 college students of Russian (n=23), Spanish (n=30), and English as a second language (ESL) (n=41) at various levels of difficulty. ESL learners were native speakers of a wide variety of languages. Results did not reveal significant correlations between language anxiety and irrational thought. Differences in students' mean scores on both instruments were also generally weak. Moderate negative correlations between language anxiety and classroom achievement comparable to that found in previous research was shown, but similar correlations did not occur between irrational thought and classroom achievement. The instruments used, and data summaries, are appended. Contains 64 references. (MSE)

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The Effects of Foreign and Second Language Students' Irrational Beliefs and Anxiety on Classroom Achievement

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Abstract

Research has demonstrated that foreign and second language students experience anxiety in the language classroom that is related to test anxiety, fear of negative evaluation, and communication apprehension. Other research indicates that high levels of irrational thought are also related to these anxieties. Furthermore, the literature has repeatedly shown a negative correlation between both irrational thought and language anxiety with classroom achievement. However, a direct relationship between irrational thought and language anxiety has never been investigated. Nor has the relationship between irrational thought and classroom achievement been investigated in the foreign or second language classroom. The purpose of this study was to investigate these relationships in terms of differences between language groups and effects on achievement. Horwitz' (1983, 1986) Foreign Language Classroom Anxiety Scale (FLCAS) and Jones'(1969) Irrational Beliefs Test (IBT) were administered to 94 students of Russian, Spanish, and ESL in an intensive learning environment. Results did not reveal significant correlations between language anxiety and irrational thought. Differences between students' mean scores on both instruments were also generally weak. Moderate negative correlations between language anxiety and classroom achievement comparable to that found in previous research was shown, but similar correlations did not exist between irrational thought and classroom achievement. Possible justifications for the weak findings and suggestions for additional research are discussed.

The Effects of Foreign and Second Language Students' Irrational Beliefs and Anxiety on Classroom Achievement

The purpose of this study is to investigate the relationship between foreign language and second language students' generally held irrational beliefs and levels of foreign language classroom anxiety, and whether these beliefs and anxieties have an effect on classroom achievement. This study crosses traditional disciplinary boundaries in bringing together previous research on irrational beliefs, foreign language classroom anxiety, and their mutually related components of communication apprehension, test anxiety, and fear of negative evaluation. Previous research has established relationships between these latter three forms of anxiety and both irrational beliefs, as measured by the Irrational Beliefs Test (IBT) (Jones, 1969) (see Appendix A), and foreign language classroom anxiety, as measured by the Foreign Language Classroom Anxiety Scale (FLCAS) (Horwitz, 1983, 1986) (see Appendix B). The literature has also repeatedly shown a negative correlation between both irrational thought and language anxiety with classroom achievement. However, a direct relationship between irrational thought and language anxiety has never been investigated. Neither has the relationship between irrational thought and classroom achievement been investigated in the foreign or second language classroom. A primary goal of this study is to investigate these new relationships.

Data were collected at the Monterey Institute of International Studies' (MIIS) 1996 Intensive Summer Language Program in Monterey, California. This research was funded in part by a mini-grant from the Pi Chapter 0016 of Phi Delta Kappa (A Professional Fraternity for Men and Women in Education).

Research Questions

Several hypotheses concerning the relationships between irrational thought, language anxiety, and classroom achievement of foreign and second language students studying in an intensive or immersion environment were investigated in this study. In investigating these hypotheses, scores on the FLCAS, IBT, and IBT subscales were treated as dependent variables. The language being studied (either ESL, Russian, or Spanish) was the primary independent variable. As will be shown in the analyses, gender was also an important independent variable. Although level of study (i.e. basic, intermediate, advanced) was not considered in depth in the analyses presented here, further investigation is warranted. Unfortunately, the modest *n* of each level within languages (particularly when considering gender) created reliability problems in the data when subdivided by any more than 2 levels of independent variables.

Hypothesis 1

Hypothesis 1 states, "There is a positive correlation between second and foreign language students' levels of irrational thought (as measured by the IBT) and language anxiety (as measured by the FLCAS)." Hypothesis 1 was tested with a Pearson correlation coefficient between the reported IBT and FLCAS scores for each language group. Additionally, the FLCAS was correlated with each subscale of the IBT to determine those subscales most strongly related to language anxiety.

Hypothesis 2

Hypothesis 2 states, "Students of foreign languages that require a greater number of contact hours to attain a given proficiency level experience higher levels of language anxiety than students of foreign languages that require fewer contact hours to reach the same proficiency level."

Hypothesis 2 was tested using independent sample t-tests comparing the means of Russian and Spanish students' scores on the FLCAS and IBT to determine whether differences in means are significant.

Hypothesis 3

Hypothesis 3 states, "Students of English as a Second Language (ESL) who are studying in an immersion environment experience higher levels of language anxiety than do foreign language students studying in an intensive environment." Hypothesis 3 was first tested via a one-way ANOVA using all three groups equally to determine the significance of differences on FLCAS scores between the three groups. It was also tested using independent sample t-tests comparing the means of ESL students' scores on the FLCAS with those of Russian and Spanish learners, respectively.

Hypothesis 4

Hypothesis 4 states, "Students of foreign languages that require a greater number of contact hours to attain a given proficiency level experience higher levels of irrational thought than students of foreign languages that require fewer contact hours to reach the same proficiency level." Like Hypothesis 2, Hypothesis 4 was tested using independent sample t-tests comparing the means of Russian and Spanish students' scores on the IBT.

Hypothesis 5

Hypothesis 5 states, "Students of English as a Second Language (ESL) who are studying in an immersion environment experience higher levels of irrational thought than do foreign language students studying in an intensive environment." Like Hypothesis 3, Hypothesis 5 was tested via an ANOVA using all three groups to determine the significance of differences on IBT scores

between the three groups. The hypothesis was then tested using t-tests comparing the means of ESL students' scores on the IBT with those of Russian and Spanish students, respectively.

Hypothesis 6

Hypothesis 6 states, "Students who experience higher levels of language anxiety attain lower proficiency than those holding lower levels of language anxiety." Hypothesis 6 was tested within each language by conducting a Pearson correlation between FLCAS scores and final grades or proficiency scores.

Hypothesis 7

Hypothesis 7 states, "Students who experience higher levels of irrational thought achieve lower proficiency than those holding lower levels of irrational thought." Hypothesis 7 was tested within each language by conducting a Pearson correlation between IBT and final grades or proficiency scores.

Definitions

In considering these hypotheses (and for clarity of meaning throughout this paper), the following definitions are applicable:

1. Foreign language learners are those learning a language while living and studying in a community where the target language is not spoken as a native language.

2. Second language learners are those learning a language native to the community in which they are living and studying.

3. An intensive language learning environment is one in which the target language is the only subject of instruction during the course of study.

4. An immersion environment is one in which the target language is the exclusive means of instruction in all subjects and is used exclusively outside of the classroom. For this study, ESL students can be considered second language learners in an immersion environment. Students of Russian and Spanish can be considered foreign language learners in an intensive environment.

5. Irrational is defined as that which "prevents people from achieving their basic goals and purposes, is illogical (especially dogmatic . . .), and is empirically inconsistent with reality" (Dryden & DiGuiseppe, 1990, p. 3). The three basic types of irrational beliefs are demands about self, demands about others, and demands about the world/life conditions. This definition is one commonly accepted in the literature on irrational beliefs in the context of Rational Emotive Behavior Therapy (REBT).

6. Similarly, rational is defined as "that which helps people to achieve their basic goals and purposes, is logical (nonabsolutist), and is empirically consistent with reality (Dryden & DiGuiseppe, 1990, p. 3).

7. Language anxiety is used to describe foreign language classroom anxiety as measured by the FLCAS.

8. Irrational thought and irrational beliefs describe relative levels of rationality and irrationality as measured by the IBT.

9. A clarification of the use of the terms "achievement," "proficiency," and "performance," is also necessary. "Proficiency" is used primarily to discuss the results of ESL students' TOEFL scores because the TOEFL is widely accepted as a standardized proficiency measure. "Proficiency" is also used in a more general context to refer to students' attained level of mastery of the target language. Because the final grades obtained for Spanish and Russian students cannot

be considered a true measure of either proficiency or performance, the term "achievement" will be used to describe these scores. Because "performance" infers action in the classroom (and is used as such here), "achievement is also used as an overall term for measuring both proficiency and achievement as defined above.

10. Finally, students are referred to throughout this paper as "Russian students" or "Spanish students" to denote the language being studied rather than the nationality of the students.

Background

This review is purposely abbreviated because the cross-disciplinary approach of this project would make a comprehensive review of all areas of research extremely long. I have provided here those references and discussions essential to establishing the existence of the relationships and effects under investigation. A broader review of language anxiety and irrational beliefs in the context of foreign and second language learning is available in Tittle (1995, 1996a).

Foreign Language Classroom Anxiety

Anxiety has long been an area of special interest to foreign language teachers because few will deny that it exists and has an effect in the foreign language classroom (Horwitz & Young, 1991). What teachers require are instructional strategies for exploiting the positive and minimizing the negative effects of student anxiety in the classroom. They must be able to aid their students in developing strategies for dealing with anxiety.

The study of anxiety in foreign and second language learning is inextricably linked to and has its origins in the broader study of all affective variables. In early research, anxiety was often a variable considered within the framework of attitudes and motivation for language learning. The study of attitudes and motivation in second language acquisition was pioneered by Gardner and Lambert (Gardner, 1985; Gardner and Lambert, 1972; Lambert, 1961). Their series of studies was designed to explore the question of how "some people can learn a foreign language quickly and expertly while others, given the same opportunities to learn, are utter failures?" (Gardner & Lambert, 1972, p. 1).

The sources and ultimate construct of language anxiety are debatable and approached differently in the literature. The two most common views of foreign language classroom anxiety

are (a) language anxiety as a unique combination of other anxieties that create a separate form of anxiety intrinsic to language learning (Horwitz, 1986; Horwitz, Horwitz, and Cope, 1986), and (b) language anxiety in the broader construct of anxiety as a basic human emotion that may be brought on by numerous combinations of situational factors (MacIntyre, 1995; MacIntyre & Gardner, 1989).

Although the definition and construct of language anxiety are disputable, there is merit in discussing language anxiety as a unique construct because it classifies the source of anxiety for the reader (P. D. MacIntyre, personal communication, September 28, 1995). Similar to test anxiety, math anxiety, performance anxiety, and phobias that describe the catalyst of the emotion, language anxiety is anxiety that is brought on in the context of foreign language learning. The fundamental motivations behind being anxious may be similar for learners in various disciplines and situations, but the sources of anxiety will also be a unique experience for each learner.

Early research on language anxiety had difficulty in establishing accurate instruments of measurement (Gardner & MacIntyre, 1993; Horwitz et al., 1986; Horwitz & Young, 1991; Phillips, 1992; Scovel, 1978). Recognizing the failure of research to define language anxiety and its effects on learning, Horwitz et al. (1986) developed a theory of language anxiety as a combined form of anxiety unique to foreign language learning. In doing so, they forwarded the concept of language anxiety as composed of, but distinguishable from, a composite of three other anxieties: communication apprehension, test anxiety, and fear of negative evaluation.

Horwitz' FLCAS has been used extensively in research to evaluate the existence and construct of language anxiety, and to determine the relationship between language anxiety and student performance. In assessing the construct validity of the FLCAS, Horwitz (1986) positively

correlated this instrument with the State-Trait Anxiety Inventory (Spielberger, 1983), the Personal Report of Communication Apprehension (McCroskey, 1970), the Fear of Negative Evaluation Scale (Watson & Friend, 1969), and the Test Anxiety Scale (Saranson, 1978). Results of these and other data regarding the reliability and validity of both the FLCAS and IBT are provided later in this paper. These comparisons are critical to the present study because the IBT has also been correlated with these or similar instruments, but a comparison of results from the IBT and FLCAS has never been conducted.

The focus of much of the research on language anxiety has been toward intervention of the negative effects of language anxiety on classroom achievement and performance. The literature has repeatedly found negative correlations between language anxiety and classroom achievement and performance, particularly oral performance (e.g. Aida, 1994; Ganschow, Sparks, Anderson, Javorsky, Skinner, & Patton, 1994; Horwitz, 1986; Horwitz et al., 1986; MacIntyre & Gardner, 1991; Phillips, 1992; Scovel, 1978; Young, 1990, 1991).

Psychological Foundations of Language Anxiety

One area where research has yet to make a solid investigation in clarifying the source of language anxiety is within the American Psychiatric Association's (1994) theories and definitions of anxiety disorders. Such an investigation is warranted in the context of this research because the origins of the study of and treatment for irrational thought lies in such theories and definitions within cognitive and behavioral psychotherapeutic research.

Although there is no evidence that language anxiety is ever severe or debilitating enough to be classified as a clinically significant disorder, it is clearly a social anxiety (MacIntyre, 1995), and its manifestations are similar to those of a social phobia. Social anxieties are marked by a fear of

social and performance situations in which embarrassment may result. The source of embarrassment can be either internal or external to the learner, but the ultimate fear is that certain goals will not be accomplished (Wolman, 1994). In classifying language anxiety in these terms, MacIntyre (1995) cites Schwarzer's (1986) concept of social anxiety as including tension, discomfort, negative self-evaluation, and withdrawal in social situations.

Beck (1967) pioneered the field of cognitive psychotherapy with his studies of depression. His theories suggest that affective variables are strongly influenced by an individual's perceptions of events and experiences. Those who suffer from anxiety disorders perceive situations or stimuli as more threatening than they actually are. A cognitive approach to social phobias and anxieties asserts that, through avoidance behaviors, anxious individuals put themselves into a negative self-fulfilling prophecy. Their fear of failure is so strong that they either isolate themselves (further depriving them of social interaction), or they act awkwardly (fulfilling their own expectations of failure) (Newman, 1994). These concepts are the building blocks for the study and treatment of irrational beliefs. Insofar as cognitive therapies are effective in treating such social anxiety disorders, they might also be effective in managing language anxiety.

MacIntyre (1995) presents anxiety, cognition, and behavior as a similar cyclical relationship in which a demand for performance in the second language leads to anxiety, which leads to worry. This division in attention affects cognition and performance, which leads to more negative evaluation and a continuation of the negative cycle. Eventually, students will be conditioned for anxiety at the mere prospect of learning a language. The challenge for the foreign language teacher is to break this cycle in the classroom.

One instructional strategy that emerges from the language anxiety research is increasing the students' cognitive awareness of their own anxiety through workshops, in-class exercises, participation in extracurricular language activities, and journals (Young, 1991). Such activities are practical applications of anxiety awareness. Through discussing and dealing with their language anxiety both in and out of the classroom, students can manage their anxiety levels and develop performance strategies.

Irrational Beliefs

An extensive literature exists on the study of generally held irrational beliefs. Like foreign language classroom anxiety, research on irrational beliefs has revealed positive correlations between irrational thought and communication apprehension (Ambler & Elkins, 1986; Ayers & Hopf, 1987; Watson & Dodd, 1984), test anxiety (Baither & Godsey, 1979; Oneill, 1985), fear of negative evaluation (Davison, Feldman, & Osborn, 1984), and trait anxiety (Gitlin and Tucker, 1988, Lohr & Bonge, 1982).

Most studies on irrational beliefs have been a product of research on the theory and practice of Rational-Emotive Behavior Therapy (REBT). REBT is a psychotherapy developed by Ellis (1972, 1973, 1994) in 1955. Originally called Rational-Emotive Therapy (RET), REBT has also been known as Rational Behavior Therapy (RBT) and Rational Psychotherapy. REBT has been used extensively for the treatment of a wide range of emotional and behavioral problems, including anxiety disorders and irrational beliefs.

REBT techniques have been adapted for use in education settings with the development of Rational Emotive Education (REE) (Knaus, 1974). REE uses the theory of REBT within an educational model to emphasizes "positive self-acceptance, critical thinking, the application of the

scientific method to self understanding, and behavioral change" (Knaus, 1974, p.1). Although it was developed for use with elementary school children, REE has been successfully employed in a variety of classroom environments at all levels of education (Conoley, 1989; McReynolds, Morris, & Kratochwill, 1989). Additionally, clinical and educational applications of REBT have been repeatedly demonstrated to be effective in reducing levels of irrational thought in the context of communication apprehension, fear of negative evaluation, and test anxiety, as well as reducing related anxiety levels (e.g. Ayers & Hopf, 1987; Baither & Godsey, 1979; Barabasz & Barabasz, 1981; Forman & Forman, 1980; Jacobs & Croake, 1976; Schelver & Gutsch, 1983; Trexler & Karst, 1972; Watson and Dodd, 1984). However, my review of the literature on language anxiety and REBT/REE, as well as personal discussions with several of the primary scholars and practitioners in both fields, found no evidence that REBT or REE techniques have been used in the foreign language classroom. The only article suggesting an application of REBT techniques as an intervention for language anxiety was published by Foss and Reitzel in 1988. Subsequent communication with both Foss and Reitzel (A. Reitzel, personal communication, January 14, 1996; K. Foss, personal communication, February 14, 1996) indicate that they have never formally implemented REBT techniques in the foreign language classroom, and know of no other such application. Tittle (1996b) also presented suggested techniques for managing language anxiety through REBT, but has not formally implemented such techniques in the classroom.

Foss and Reitzel (1988) approach the problem of dispelling irrational beliefs by adapting REBT for language learning. Students involved in REBT are asked to express beliefs such as, "Russian is too hard. I will never be able to learn Russian well enough to go to Russia and talk to the people." These assertions are then analyzed and challenged through a filter of evidence, both

in support and in dispute of the belief. Through this process, students "may choose to approach, rather than avoid situations demanding conversation" (Foss & Reitzel, 1988, p. 445). The ultimate goal for instruction in this regard is not to reduce anxiety in every situation, but to recognize its role in the learning process and devise strategies for managing its effects. Tittle (1996b) has expanded on this theme as a metacognitive approach toward managing language anxiety, with the adaptation of specific REBT techniques for the foreign language classroom.

In an education setting, this process is not, however, a completely student-centered activity. The teacher must facilitate the challenge and monitor students' metacognition. Foss and Reitzel (1988) suggest that teachers present the idea of an irrational belief system and suggest possible causations (i.e. culture, family, experience). The teacher then asks students to list their fears about conversing in the target language. This process serves as a group therapy model as students see that their fears are not exclusive. The students then begin the challenging phase of REBT as suggested above. In theory, REBT appears to have promise as a technique for foreign language teachers and learners to use in managing classroom language anxiety (Tittle, 1995). Research and application are necessary to investigate its effectiveness in this context.

Although the purpose of this study is not to implement REBT as an intervention technique, the nature of the research on irrational beliefs as imbedded in the applied study and practice of REBT as a method for dispelling irrational beliefs, presents similar possibilities for language anxiety. If a positive correlation between language anxiety and irrational beliefs is established, then it follows that REBT might serve as an effective intervention for managing language anxiety.

Method

Data were collected at the 1996 Intensive Summer Language Program of the Monterey Institute of International Studies (MIIS) in Monterey, California. MIIS is a private graduate school that offers Masters degrees in several disciplines including international business, policy studies, arms control, area studies, translation and interpretation, teaching of English to speakers of other languages, and foreign language teaching. The Summer Intensive Language Program is open to both graduate and undergraduate students worldwide. MIIS was chosen for this study because it is one of very few institutions in the U.S. that offers several languages, including Russian and ESL, in an intensive summer setting. This environment allows a unique comparison of languages, such as Russian and Spanish, that require significantly different numbers of contact hours to achieve similar proficiency levels on the Foreign Service Institute (FSI) or American Council on the Teaching of Foreign Languages (ACTFL) proficiency scales (Liskin-Gasparro, 1982). It also affords the opportunity to investigate differences between foreign language learners and second language learners in the same environment.

Participants

Students at MIIS are both graduate and undergraduate students of varying ages and previous language learning abilities. For this study, all beginning, intermediate, and advanced learners of Russian and Spanish, and all intermediate and advanced ESL learners were invited to participate. These three languages were chosen from the ten languages taught at MIIS primarily to provide a contrast between learners of languages that require significantly different number of contact hours to achieve the same proficiency level, and to contrast differences between learning a second and foreign language. Russian was chosen over other languages requiring a higher number of contact

hours because of my own expertise and research interest in Russian language learners. Second language acquisition expertise and research has been a traditional weakness of Slavic languages scholarship. Spanish was chosen over other languages that require fewer contact hours because of its status in the U.S. as the most commonly taught foreign language, and the larger number of available students. As stated previously, the unusual availability of both second language and foreign language students in the same intensive institutional environment offers a unique research opportunity for comparing anxiety levels and irrational beliefs between foreign and second language (ESL) learners.

It is important to note that students at MIIS receive a limited amount of instruction in "learner training" which focuses partially upon anxiety in classroom situations and other metacognitive processes in learning. Some such training was conducted before data were collected for this study, and continued throughout the summer. Teachers at MIIS also receive instruction in monitoring and counseling students regarding their anxieties and learning styles.

Over 100 students initially participated in the study and data from 94 of these were used in the final analyses. The remainder were eliminated either because they voluntarily withdrew from the study or did not fully complete both of the surveys. Of the 94 participants, 41 were ESL students, 23 were Russian students, and 30 were Spanish students. Sixty-one participants were female and 33 were male. The mean age for all participants was 26.69, but the median of 25 is more representative of the entire sample with over 61% of the students between the ages of 22-27. Over 80% of the participants were graduate students. Almost all of the Spanish and Russian students were native speakers of English. Sixty six percent (n = 27) of the ESL students were native speakers of Japanese, and 12% (n = 5) were native speakers of Arabic. The remaining

22% of the ESL students (n = 9) included one or two native speakers each of Spanish, Mandarin Chinese, German, Polish, and Indonesian.

Instruments

Data were collected for this study using the two previously mentioned survey instruments: the Irrational Beliefs Test (IBT) (Jones, 1969) and the Foreign Language Classroom Anxiety Scale (FLCAS) (Horwitz, 1983, 1986) (see Appendices A & B).

Slightly modified ESL versions of the IBT and FLCAS were developed specifically for this study and are available for review upon request. Changes in the IBT and FLCAS were made to rephrase a few colloquial or idiomatic items to a more literal meaning, or to emphasize English as the target language. At the beginning of the ESL versions is a request to circle any questions which were difficult to understand. Additionally, one item was added to the end of all instruments asking non-native speakers of English to rate the overall difficulty of the survey. These minimal changes apparently had no effect the reliability of the instruments, which is reported later.

Missing data. Before proceeding with specific information about the IBT and FLCAS, it is necessary to explain problems encountered with missing data, and how these problems were resolved in data handling. Approximately 50% of the ESL students (but very few Russian and Spanish students) failed to answer from 1 to 12 items of the IBT and 1 to 3 items of the FLCAS. This caused significant problems in analyzing data for the IBT in particular, because it was not possible to compute sums for the IBT and those subscales for which data were missing. This reduced the sample n of ESL students to as few as 21, and resulted in insufficient reliability coefficients for ESL students' responses to the IBT (overall α = .41).

The reason that a significant number of ESL students failed to answer so many items is at least partially due to lack of complete understanding of individual items. The final question of each instrument asked non-native speakers of English to rate the difficulty of the survey as a whole (see Appendices A and B). Thirty three percent of the ESL students responded that the IBT was difficult or very difficult. This is in contrast to only 5% of ESL students believing that the FLCAS was difficult. Given the perceived level of difficulty and the difference in reliability coefficients between the instruments, it is apparent that the difficulty lies in the construction of the IBT rather than the students' proficiency.

To correct for this problem, scores were derived for missing data by averaging a participant's responses to the actual items answered for a particular IBT subscale (descriptions of the 10 subscales are discussed below), given that at least 7 of 10 subscale items were answered and at least 80 of 100 total IBT items were answered. The average was substituted for the missing data, making it possible to calculate sums and include data for all subscales and overall IBT scores. For consistency in scoring, this procedure was used for all missing data on both the IBT and FLCAS regardless of the language being studied. For the FLCAS, the average of all answered items were substituted given that at least 80% (27 items) were answered. Only two students failed to answer a sufficient number of items within individual subscales (1 subscale for each of the 2 students) to replace missing data on the IBT. This reduces the number of participants to 92 for analyses using the overall IBT scores or the individual subscales not scored for those students. All students answered a sufficient number of items on the FLCAS. By replacing missing data, acceptable reliability coefficients were achieved for the IBT as a whole, and the statistical power of tests using the IBT was increased by increasing the sample size.

IBT. The IBT (Jones, 1969) is a 100-item survey scored on a 5-point Likert scale, and consists of ten subscales of 10 questions each. The subscales are Demand for Approval (DA), High Self Expectations (HSE), Blame Proneness (BP), Frustration Reactivity (FR), Emotional Irresponsibility (EI), Anxious Overconcern (AO), Problem Avoidance (PA), Dependency (D), Helplessness for Change (HC), and Perfectionism (P). Each subscale addresses an area of irrational thought that has been forwarded in REBT theory and targeted for treatment. They each represent a specific personality trait on which an individuals' beliefs system is as least partially based. For example, Blame Proneness represents an individual's tendency to blame others for their own mistakes or misfortunes. Items are designed to represent either a rational or irrational belief of a subscale. Items are ordered so that either a rational or irrational belief from each subscale is presented in the same order every tenth item.

Although there are several instruments which evaluate both rational and irrational beliefs, the IBT was chosen because it is the most comprehensive and has been extensively evaluated and validated (Cramer, 1895; Lohr & Bonge, 1980, 1981, 1982; Martin, Dolliver, & Irvin, 1977; Ray & Bak, 1980; Trexler & Karst, 1973; Woods, 1992). The IBT is scored so that a higher score represents a greater number of irrational held beliefs, thus representing a higher level of irrational thought. Each subscale can be independently scored.

Other beliefs instruments were considered and rejected for a variety of reasons. DiGiuseppe's (1988) Attitudes and Belief Scale II (ABS-II), for example, has received praise for the construct of its questions as being exclusively stated as beliefs (Robb & Warren, 1990), but was undergoing significant revision at the time of the present study (R. DiGiuseppe, personal communication, February 28, 1996). Additionally, the ABS-II has been criticized for the

commonality of its questions. Some clinicians and researchers have noted that respondents become frustrated with the survey because the items are so similar (P. J. Woods, personal communication, February 28, 1996). Several other instruments were considered and rejected either because they were unavailable, had not been sufficiently validated, or had received specific criticism in terms of construct validity.

The IBT has, itself, been the subject of considerable evaluation and criticism. The primary weakness of the IBT is that only about 50 percent of its questions are phrased as beliefs. Other items have been evaluated as behavioral, emotional, or ambiguous (Woods, 1992). In an effort to resolve this weakness, Woods revised the IBT scoring procedures so that non-belief questions can be factored out if desired.

Despite criticisms, the IBT has been repeatedly evaluated as a reliable and valid instrument. Jones (1969) reported a one-day overall test-retest reliability of r = .92 and r = .67 to .87 for the various subscales, and internal reliability coefficients of α = .66 to .80. Trexler and Karst (1972) reported a two-week test-retest reliability of α = .88, and reliability coefficients comparable to Jones'. Using a modified scoring technique, Lohr and Bonge (1980) reported a slightly lower 8-week test-retest reliability of r = .79 and r = .58 to .80 for the various subscales. Lohr and Bonge (1982) also replicated sufficient internal reliability on all but one subscale of the IBT, with α = .52 to .73. (The HE subscale scored only α = .35).

In the present study, reliability coefficients on the IBT as a whole were lower than in previous research, but were generally acceptable once missing data were replaced (see Table 1). Without regard to the language being studied, the overall reliability coefficient of the IBT was α = .79. Overall scores for each language were Russian: α = .86; Spanish: α = .81; and ESL: α = .71.

Although these overall coefficients were acceptable, the reliability of individual IBT subscales varied significantly between language groups, with most subscales showing insufficient reliability (see Table 1). Therefore, analysis of most subscales of the IBT should be interpreted with caution. For the analyses presented here, a minimum acceptable reliability coefficient of $\alpha \geq .70$ was used.

Using Wood's (1992) reduced 47-item alternative scoring method mentioned above, reliability was not sufficient ($\alpha = .53$). As a result, no additional analysis of this reduced IBT was conducted.

In previous research, the IBT has demonstrated strong construct validity through correlation with other related self-report measures. Jones (1969) produced a correlation of $r = .61$ with a measure of self-reported psychiatric symptoms. Ray and Bak (1980) reported a Pearson coefficient of $r = -.72$, $p \leq .001$ with the Rational Belief Inventory (Shorkey & Whiteman, 1977). This negative correlation was expected and reflects the differences between measurement for rational and irrational thought between the instruments. Davison et al. (1984) reported a strong correlation of $r = .79$, $p \leq .001$ between the IBT and the Fear of Negative Evaluation Scale (Watson & Friend, 1969). Trexler and Karst (1973) reported a correlation between the IBT and a Personal Report of Confidence as a Speaker (PRCS) (Paul, 1966) of $r = .49$, $p < .01$. Lohr and Bonge (1981) also reported a correlation of $r = .49$, $p < .001$ between the IBT and the trait scale of Spielberger's State-Trait Anxiety Inventory. Gitlin and Tucker (1988) found a greater correlation between the IBT and Trait scale of $r = .65$, $p < .01$.

Given the modest or unreliable alpha coefficients in this study, there are clearly problems in using the IBT with this population. Several Russian and Spanish students questioned items they

believed to be ambiguous or confusing in their wording. ESL students clearly had difficulties with the IBT as well. Future research would benefit from choosing a beliefs scale that was more reliable and that had been tested with non-native speakers of English. Additional suggestions regarding instrument selection are provided later.

FLCAS. The FLCAS (Horwitz, 1983, 1986) is a 33-item survey designed to evaluate students' self-reported levels of anxiety. Items are designed to survey communication apprehension, test anxiety, and fear of negative evaluation. The FLCAS is scored on a 5-point Likert scale with higher scores representing higher levels of anxiety. The FLCAS has been the most extensively used and validated foreign language anxiety survey.

Previous research has also established the FLCAS as a reliable and valid instrument. Horwitz et al. (1986) reported an eight-week test-retest reliability of $r = .83$ ($p < .001$). Horwitz (1986) also reported an internal consistency of $\alpha = .93$. Aida (1994) reported similar test-retest reliability ($r = .80$, $p < .01$) and internal consistency ($\alpha = .94$). In this study the FLCAS showed similar internal consistency compared to these previous studies ($\alpha = .92$) (see Table 1).

The construct validity of the FLCAS has been established through correlation with the trait scale of the State-Trait Anxiety Inventory (Spielberger, 1983) ($r = .29$, $p < .002$); with the Personal Report of Communication Apprehension (McCrosky, 1970) ($r = .28$, $p < .063$); with the Fear of Negative Evaluation Scale (Watson & Friend, 1969) ($r = .36$, $p < .007$); and with the Test Anxiety Scale (Saranson, 1978) ($r = .53$, $p < .001$). Horwitz has interpreted these modest correlations to indicate that foreign language classroom anxiety is related to, but discernible from these other forms of anxiety. Aida (1994) and MacIntyre and Gardner (1989) were unable to replicate Horwitz' findings that test anxiety was related to foreign language anxiety.

Performance Assessment

Performance was measured differently for each language. Therefore all analysis were performed within and not between language groups. ESL students' scores are the overall scores on the Test of English as a Foreign Language (TOEFL). MIIS administered and scored an institutional version of the TOEFL. Because ESL students were not required to take the TOEFL for completion of summer study, the sample for this measure was only $n = 19$. The TOEFL was administered three times during the summer, in June, July, and August. Of the 19 participants who took the TOEFL, some took it only once, but they were permitted to take the test each time. The scores used for this study are the highest score achieved during an individual administration, regardless of which month it was taken. Individual high scores from different administrations were not combined, nor were scores averaged for use in the analyses presented here.

Russian and Spanish students at all levels (with the exception of the advanced Spanish students) received approximately 200 hours of instruction and credit for three separate 4-credit hour courses taken consecutively during the summer. The final grades from the three courses were averaged into a single grade for the summer on a standard 4.0 scale (4.0 = A/A+) with plus and minus grades. This average was used for analysis in this study. Instruction for Russian and Spanish students includes intensive instruction in speaking, reading, listening, and writing, as well as cultural and content instruction. Final grades for each 4-credit course are based on a combination of class performance, homework, weekly tests, and a final exam.

Advanced Spanish students were enrolled in a prerequisite course for admission into the MIIS Translation and Interpretation curriculum. Their grades represent a single grade given for the entire summer. Although not identical to that of other Spanish students, instruction for these advanced students also included instruction in all four skills.

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Although course grades are by no means an optimal measure of achievement or proficiency, they were the only measure available in that very few students completed an ACTFL Oral Proficiency interview, and that no other standardized measures were administered. Averaging grades across the summer should provide a more reliable measure than if only the final trimester grade had been used.

Procedures

Students of Spanish and Russian participated in this study during their first and second weeks of summer instruction. Russian students began summer study a week earlier than Spanish students. All levels of Russian and Spanish students were administered the surveys by the researcher during the same three day period. The instruments were administered early in the summer term to minimize the effects of interference by other variables that might have raised or lowered anxiety levels, such as recent test scores, relationships with instructors and other students, or course content.

Immediately after having the study explained to them and signing a consent form, all students were administered the IBT. They were administered the FLCAS either one or two days later to reduce interference between the instruments.

Unfortunately, ESL students were not administered the surveys until approximately the third or fourth week of instruction. The delay in administering to the ESL students was due to scheduling conflicts. Possible effects of the later administration for ESL students is discussed below. Surveys were administered to ESL students by teachers and staff members without the presence of the researcher. One to three days elapsed between administration of the IBT and the FLCAS for ESL students. All surveys were administered during normal class hours for students

of all three languages. Performance measures were provided by the MIIS administration at the end of the summer.

Results

As previously mentioned, without replacing missing data in responses to the IBT and FLCAS, internal reliability of the IBT (particularly for ESL students) was insufficient for accurate analysis. Therefore, all analyses reported below were conducted after imputing values for missing data. Even after replacing missing values, most IBT subscales showed weak reliability for all languages. An alpha level of .05 was used for all statistical tests.

Overall results were not as strong as anticipated. With the exception of some specific correlations discussed below, students did not report higher levels of language anxiety in conjunction with higher levels of irrational thought. Similarly, significant differences in mean scores on the FLCAS and IBT, representing differences in levels of anxiety and irrational thought, did not generally exist between languages. Exceptions are discussed in detail below.

As shall be shown, testing of Hypotheses 3 and 5 generally revealed the opposite of the anticipated finding that ESL students would have higher levels of irrational thought and language anxiety than other students. In fact, their reported mean scores were lower than those of other students. This may have been due to the later administration of the IBT for ESL students, and because there were no basic level ESL students in the sample.

As predicted, testing of Hypothesis 6 revealed negative correlations between language anxiety and achievement that were comparable to the findings of previous research. However, the hypothesized negative correlations between irrational thought and achievement were not supported in the findings. These results were further confirmed in an additional analysis that grouped students with extreme scores on the FLCAS and IBT as either exhibiting high or low anxiety and having high or low levels of irrational thought. The only group of students whose

data generally displayed or approached the hypothesized results were male Russian students.

Table 2 displays a brief summary of findings for each hypothesis. Each hypothesis is restated and considered individually below. Before testing Hypotheses 2-5, two 2x3 ANOVAs were conducted to test the overall effects of language anxiety (as measured by the FLCAS) or irrational thought (as measured by the IBT) by both gender and target language for all participants. On the FLCAS, a significant main effect for language was revealed ($F(2,93) = 3.18$, $p < .047$) (see Table 3). On the IBT, a significant interaction effect was revealed between language and sex ($F(2,91) = 3.52$, $p < .034$) (see Table 4). Together, these 2x3 ANOVA results support the decision to further test for differences between both gender and languages as forwarded in Hypotheses 2-5.

IBT and FLCAS Scores

Table 5 displays mean scores for the IBT and FLCAS. Overall mean scores for the IBT are similar to those reported in previous research using student samples. The combined mean for all students ($n = 92$) in this study was $M = 281.07$. Trexler and Karst (1973) reported a three-sample combined mean of 282. Martin et al. (1977) report a sample mean of 277.

Overall FLCAS scores ($M = 87.90$) are lower than those reported in previous research. Horwitz et al. (1986) reported a mean of 94.5, and Aida (1994) reported a mean of 96.5. These differences are likely a result of differences in age and/or academic level of the learners. Both Horwitz et al. and Aida used samples of undergraduates in introductory classes, whereas the students in this sample are mostly graduate students pursuing language study for specific professional goals, and often with considerable previous language learning experience. Mean scores for all students of beginning Russian and Spanish were closer to but still lower than those reported in previous research ($M = 92.96$).

Hypothesis 1

Restated: "There is a positive correlation between second and foreign language students' levels of irrational thought (as measured by the IBT) and language anxiety (as measured by the FLCAS)."

Table 6 displays correlation coefficients between the FLCAS and the IBT (including IBT subscales). Looking at the entire sample, without regard to language and gender, there were no significant correlations between the FLCAS and the IBT or any of its subscales. The overall correlation between the FLCAS and the IBT was $r = .17$, $p < .10$.

When accounting for gender only, this correlation was slightly higher for males ($r = .30$, $p < .09$), and was actually lower for females ($r = .11$, $p < .41$). The only statistically significant correlation when accounting for gender without regard to language was for males in the relationship between the FLCAS and the IBT Blame Proneness (BP) subscale ($r = .42$, $p < .015$). However, the BP subscale demonstrated insufficient reliability for both Russian and Spanish students. The strongest correlation for females without regard to language was between the FLCAS and the IBT High-Self Expectation (HSE) subscale ($r = .25$, $p < .054$). This correlation approached, but did not achieve statistical significance. Additionally, the HSE subscale displayed insufficient reliability for both ESL and Russian students.

When individual language groups were analyzed without regard to gender, the results were similar with some exceptions. ESL students showed a moderate and significant correlation between the FLCAS and IBT ($r = .41$, $p < .01$). Although ESL students showed significant correlations between the FLCAS and the DA and HSE subscales, neither subscale had sufficient reliability. Russian students showed a significant correlation only between the FLCAS and the

IBT Blame Proneness (BP) subscale ($r = .58$, $p < .004$). However, the reliability of the BP subscale for Russian students is also insufficient. For Spanish students, all correlations were weak and insignificant.

Accounting for both gender and language resulted in higher, but still modest correlations in some cases. The only statistically significant correlation between the FLCAS and IBT was for female ESL students ($r = .47$, $p < .02$).

No single subscale showed consistently higher correlations across either languages or gender. Similarly, no subgroup of students showed consistently higher correlations across subscales. However, male Russian students did show correlations greater than $r = .60$ between the FLCAS and five of the 10 subscales, and an overall FLCAS/IBT correlation of $r = .68$, $p < .06$. Strong positive and significant correlations were shown for male Russian students on the Blame Proneness (BP) subscale ($r = .94$, $p < .001$) and the Frustration Reactivity (FR) subscale ($r = .80$, $p < .017$). However, both the BP and FR subscales were unreliable for Russian students (see Table 1). The only other significant, although moderate, correlations when accounting for both language and gender were between the FLCAS and the Demand for Approval (DA) subscale for male Spanish students ($r = .79$, $p < .021$), and for female ESL students between the FLCAS and IBT overall ($r = .47$, $p < .021$), the Demand for Approval (DA) subscale ($r = .51$, $p < .011$), and the High-Self Expectation (HSE) subscale ($r = .51$, $p < .01$). Again, all of these subscales had low reliability coefficients, making the results inconclusive.

Summary of Hypothesis 1. Only ESL students, and particularly, female ESL students displayed correlations which support Hypothesis 1. Although, male Russian students' data did

not show both significant and reliable correlations on any comparison, the strong overall IBT / FLCAS correlation, which approached significance, is notable.

Hypothesis 2

Restated: "Students of foreign languages that require a greater number of contact hours to attain a given proficiency level experience higher levels of language anxiety than students of foreign languages that require fewer contact hours to reach the same proficiency level."
A t-test of independent samples was conducted between the means of Russian and Spanish students' scores on the FLCAS to test this hypothesis. Results are displayed in Table 7.

Although mean FLCAS scores were higher for Russian students in all analyses, the t-tests indicated that there were no significant differences in these scores between Russian and Spanish students when gender was not accounted for. The mean FLCAS scores for Russian and Spanish students were $M = 95.9$, $SD = 20.35$ and $M = 84.9$, $SD = 22.71$ respectively. The results of the t-test approached, but did not attain statistical significance ($t(51) = 1.83$, $p < .074$). When gender was accounted for, the differences in means between Russian and Spanish students were still insignificant for male Russian ($M = 103$, $SD = 20.57$) and Spanish students (($M = 89.38$, $SD = 18.62$), where $t(14) = 1.39$, $p < .19$. Despite the range in mean scores for male students (larger than for Russian and Spanish students without regard to gender) the lower significance level reflects a lack of power at least partially due to small sample size ($n = 16$). For female Russian ($M = 92.11$, $SD = 19.89$) and Spanish students ($M = 83.27$, $SD = 24.21$) the results of the significance test were $t(35) = 1.17$, $p < .25$.

Summary of Hypothesis 2. Hypothesis 2 is not supported by the results. These results are at least partially due to a lack of power in the significance tests.

Hypothesis 3

Restated: "Students of English as a Second Language (ESL) who are studying in an immersion environment experience higher levels of language anxiety than foreign language students studying in an intensive environment." A one-way Analysis of Variance (ANOVA) was conducted to test differences across all three languages equally. ANOVA results are displayed in Table 8. This hypothesis was then tested using independent sample t-tests, comparing mean FLCAS scores for ESL students with those of Russian and Spanish students, respectively. Results of the t-tests are displayed in Table 7.

ANOVA of FLCAS scores. A one-way ANOVA comparing FLCAS scores for all three language groups (without regard to gender) approached, but did not achieve statistical significance ($F(2,91) = 2.9$, $p < .06$) (see Table 8). When gender was taken into account there were no significant differences in mean FLCAS scores among all three languages for either males ($F(2,30) = 2.279$, $p < .12$) or females ($F(2,58) = 1.071$, $p < .35$), although the significance was greater for males than for females.

t-tests for Russian and ESL students. Without accounting for gender, the t-test between the means of Russian students' FLCAS scores ($M = 95.90$, $SD = 20.35$) and ESL students' FLCAS scores ($M = 83.91$, $SD = 17.82$) showed the differences in language anxiety to be significant ($t(62) = -2.45$, $p < .017$). Interestingly, however, the results were opposite of those hypothesized in that ESL students reported experiencing lower levels of anxiety than did Russian students.

When gender was taken into account, significant differences in the scores of male Russian and ESL students were noted. The t-test of mean differences for male students of Russian

(M = 103, SD = 20.57) and ESL (M = 84.87, SD = 20.05) was $t(23) = -2.09$, $p < .048$. Again, ESL students' mean scores were lower, instead of higher, than Russian students' scores. For female students of ESL (M = 83.22, SD = 16.47) and Russian (M = 92.11, SD = 19.87), differences in reported anxiety levels were not significant ($t(37) = -1.15$, $p < .14$).

t-tests for Spanish and ESL students. Without accounting for gender, there were no significant differences between FLCAS scores for Spanish students (M = 84.9, SD = 22.7) and ESL students (M = 83.91, SD = 17.82). The t-test results were $t(69) = -.206$, $p < .84$). Spanish students' scores were only slightly higher than those of ESL students, but this is again the opposite of the differences hypothesized.

When gender was taken into account, there were no significant differences in FLCAS scores of either male or female Spanish and ESL students. The t-test of mean differences for male students of Spanish (M = 89.38, SD = 18.62) and ESL (M = 84.87, SD = 20.05) was $t(23) = -.53$, $p < .60$. Again, ESL students' mean scores were lower, instead of higher, than Spanish students' scores. Reported language anxiety means for female students of Spanish (M = 83.27, SD = 24.21) and ESL (M = 83.22, SD = 16.47), were almost identical, making differences insignificant ($t(44) = -.008$, $p < .99$).

Summary of Hypothesis 3. Hypothesis 3 is not supported by the data. The only significant differences (between Russian and ESL students' FLCAS scores) were opposite of those hypothesized.

Hypothesis 4

Restated: "Students of foreign languages that require a greater number of contact hours to attain a given proficiency level experience higher levels of irrational thought than do students of

foreign languages that require fewer contact hours to reach the same proficiency level." This hypothesis is equivalent to Hypothesis 2 with the exception that the overall mean scores of the IBT are used as a measure of irrational thought. In Hypothesis 2, FLCAS scores were used as a measure of language anxiety. Table 9 displays the results of t-tests of differences between IBT scores.

The mean scores on the IBT for Russian and Spanish students without regard for gender were $M = 285$, $SD = 29.75$ and $M = 276.02$, $SD = 27.31$, respectively. The results of the t-test determined that differences in these means were not significant ($t(51) = 1.142$, $p < .259$). When gender was accounted the differences in means between students of Russian and Spanish were still determined to be non-significant. For male Russian ($M = 280.75$, $SD = 28.68$) and Spanish students ($M = 259.38$, $SD = 20.04$) the t-test results were $t(14) = 1.73$, $p < .11$. Although there is a larger range between mean scores for male students of Russian and Spanish than for any other two groups, the absence of significance can again likely be attributed to a lack of statistical power due to the small sample size ($n = 16$) and the large difference in standard deviations. For female Russian ($M = 287.27$, $SD = 31.05$) and Spanish students ($M = 282.07$, $SD = 27.43$) the results of the t-test were $t(35) = .537$, $p < .60$.

Summary of Hypothesis 4. Hypothesis 4 is not supported in that there are no significant differences between Russian and Spanish students' scores on the IBT.

Hypothesis 5

Restated: "Students of English as a Second Language (ESL), who are studying in an immersion environment experience higher levels of irrational thought than do foreign language students studying in an intensive environment." This hypothesis is identical to Hypothesis 3 with

the exception that levels of irrational thought were tested as measured by the IBT. In Hypothesis 3, language anxiety was tested as measured by the FLCAS. A one-way Analysis of Variance (ANOVA) was conducted to test differences across all three languages simultaneously. ANOVA results are displayed in Table 10. This hypothesis was then tested using independent sample t-tests, comparing mean IBT scores for ESL students with those of Russian students and Spanish students, respectively. Results of these t-tests are displayed in Table 9.

ANOVA of IBT scores. A one-way ANOVA comparing IBT scores for all three language groups without regard to gender also showed no significant differences ($F(2,89) = .90, p < .41$) (see Table 10). When gender was taken into account, significant differences were revealed between IBT scores of male students of the three languages ($F(2,29) = 5.243, p < .011$). However, there were no significant differences for females ($F(2,57) = .586, p < .56$).

t-tests for Russian and ESL students. Without taking gender into account, the t-test between the means of Russian students' scores ($M = 285, SD = 29.75$) and ESL students' scores ($M = 82.64, SD = 22.5$) revealed that the differences in IBT scores were not significant ($t(60) = -.354, p < .725$). As with language anxiety in Hypothesis 3, the results were opposite of those hypothesized in that ESL students reported experiencing slightly lower levels of irrational thought than did Russian students.

There were also no significant differences in reported levels of irrational thought of Russian and ESL students when gender was taken into account. The t-test of mean differences for male Russian ($M = 280.75, SD = 28.68$) and ESL students ($M = 289.92, SD = 18.64$) was $t(22) = .95, p < .35$. Again, ESL students' mean scores were lower, instead of higher, than Russian students' scores. For female Russian ($M = 287.27, SD = 31.05$) and ESL students,

(M = 277.57, SD = 23.91) differences in IBT scores were not significant ($t(36) = -1.09$, $p < .29$).

t-tests for Spanish and ESL students. Without taking gender into account, the t-test between the means of Spanish (M = 276.02, SD = 27.31) and ESL students' IBT scores (M = 282.64, SD = 22.5) were not significant ($t(67) = 1.10$, $p < .27$). As with Hypothesis 3, the results were opposite of those hypothesized in that ESL students reported experiencing lower levels of irrational thought than did Spanish students.

When gender was taken into account, there were significant differences in IBT scores of male Spanish (M = 259.38, SD = 20.04) and ESL (M = 289.92, SD = 18.64) students, where the t-test results were $t(22) = 3.69$, $p < .001$. In this case, the hypothesis is supported in that male ESL students reported significantly higher levels of irrational thought than did male Spanish students. *This is the only case in the analysis of Hypotheses 3 and 5 where the hypothesis is fully supported.* For female ESL (M = 277.57, SD = 23.91) and Spanish students (M = 282.07, SD = 27.43), differences in reported anxiety levels were not significant ($t(43) = -.59$, $p < .56$).

Summary of Hypothesis 5. Hypothesis 5 is supported in the case of differences between IBT scores of male Russian and ESL student. The ANOVA also reveals support for Hypothesis 5 in the case of male students of all three languages.

Hypothesis 6

Restated: "Students who experience high levels of language anxiety attain lower proficiency than those holding low levels of language anxiety." This hypothesis was tested within each language by conducting a Pearson correlation between FLCAS scores and final grades or TOEFL scores. Correlations of the total sample, regardless of language, was not conducted because differences in proficiency measures for each language would have made the correlations

unreliable. Mean TOEFL scores and final grades are displayed in Table 11. Correlations between final grades or TOEFL scores and both the FLCAS are displayed in Table 12.

Without accounting for gender, students of Russian displayed a moderate and significant, negative correlation of $r = -.418$, $p < .047$ between FLCAS scores and final grade. This correlation is comparable to Horwitz' (1986) findings of $r = -.49$, $p < .003$ for 35 beginning students of Spanish, and $r = -.54$, $p < .001$ for 32 beginning students of French. It is also comparable to Aida's (1994) findings of $r = -.38$, $p < .01$ between the FLCAS and course grades for 96 second-year students of Japanese. The same correlation for both Spanish and ESL students in the present study were also negative, as hypothesized, but were weaker and not significant (Spanish: $r = -.221$, $p < .259$) (ESL: $r = -.241$, $p < .32$).

When both gender and language were accounted for, only male Russian students displayed a strong negative correlation of $r = -.692$, $p < .057$ between the FLCAS and final grades. Approaching significance at $p < .057$, this correlation is much stronger than those for other groups in the present study as well as for previous research. Correlations between the FLCAS and final grades for all other groups were weak, insignificant or unreliable (see Table 12).

Summary of Hypothesis 6. Results support Hypothesis 6 in the case of Russian students.

Hypothesis 7

Hypothesis 7 states, "Students who experience high levels of irrational thought achieve lower proficiency than those holding low levels of irrational thought." This hypothesis was tested within each language by conducting a Pearson correlation between IBT scores and final grades or TOEFL scores. Mean TOEFL scores and final grades are displayed in Table 11. Correlations between TOEFL scores or final grades and the IBT are displayed in Table 12.

Additionally, a multiple regression analysis was conducted for male Russian students with the various subscales of the IBT as independent variables and final grade as the dependent variable to determine the significance of and level to which each type of belief represented by the subscales affects proficiency. The regression was only conducted for male Russian students because they were the only subgroup that showed sufficient negative correlations between final grades and several IBT subscales.

Nearly all correlations between the overall IBT score and course grades (or TOEFL for ESL students) were either very weak or insignificant. The exception was that male Spanish students showed moderate to strong positive correlations between final grades and the IBT overall and five of the IBT subscales (see Table 12). This unexpected result is likely due to unusually low overall IBT scores for these eight students.

Male Russian students showed moderate negative correlations between final grades and overall IBT scores, as well as with five of the IBT subscales. However, only the correlation between final grades and the Perfectionism (P) subscale was both significant and reliable. A stepwise multiple regression analysis was performed with final grade as the dependent variable to determine the significance of and level to which each type of belief represented by the subscales could be used as a predictor of final grades for male Russian students. Results indicated that the Perfectionism (P) and Demand for Approval (DA) combined to account for most of the effect between final grades and beliefs ($R^2 = .972$). Of this, P accounted for 59% ($R^2 = .972$) and DA accounted for the additional 38%. The regression analysis further indicated that this model of P and DA as factors for predicting grades was significant with $F(2,7) = 87.711$, $p < .001$.

Summary of Hypothesis 7. Hypothesis 7 was not supported by the results. However, the moderate to strong correlations for male Russian students warranted conducting a multiple regression analysis. Results suggest that male Russian students' thoughts of perfectionism and demand for approval might be reliable predictors of final grades.

Additional Analyses

Based on the generally inconclusive results on all seven hypotheses for all but male students of Russian, additional analyses were conducted in which students with high and low scores on both the FLCAS and IBT were analyzed separately for differences in mean scores between the two instruments and with final grades or TOEFL scores. The purpose of this analysis was to detect significant differences in the mean proficiency scores of those students with extreme levels of anxiety and irrational thought, and differences in the mean scores of the opposing instrument for which extreme levels were being considered. That is, for students exhibiting high and low anxiety, their final grades or TOEFL scores and IBT scores were tested for significant differences. Likewise for students exhibiting high and low levels of irrational thought, their final grades or TOEFL scores and FLCAS scores were tested for significant differences.

Determining high and low anxiety and irrational thought. Those students whose overall scores on the respective instruments were one standard deviation above or one standard deviation below the mean score for all students within a language group, were labeled as having either high or low levels of anxiety or irrational thought. These students' final grades, TOEFL scores, FLCAS scores, and IBT scores were tested for differences in means between students of all three languages with high and low levels of anxiety or high and low levels of irrational thought. Mean scores on the IBT, FLCAS, TOEFL, and final grades are displayed in Table 13 for each "high" or

"low" group. Results of t-tests are displayed in Table 14 by anxiety level and Table 15 by level of irrational thought.

Results. Eleven students were identified as having low anxiety and 16 students were identified as having high anxiety. Similarly, 19 students were identified as having low levels of irrational thought and 16 students were identified as having high levels of irrational thought. The frequency of males, females, and students of specific languages with high and low anxiety and irrational thought were comparable to the expected frequencies with a few exceptions, none of which were significant. Because of the low *n* of these subsamples, analyses were without regard to language and gender, except in the case of final grades and TOEFL scores, where ESL students were separated from the others.

Results of differences for high and low anxiety students. The mean scores on the FLCAS, IBT, TOEFL and final grades for high and low anxiety students are displayed in Table 13. For high and low anxiety students there were significant differences in final grades (Russian and Spanish students) ($t(11) = 2.836$, $p < .018$), but not in TOEFL scores (ESL students) ($t(4) = -.166$, $p < .876$). The insignificant differences in TOEFL scores is due at least in part to the extremely low number of ESL students who took the TOEFL and were identified as high anxiety ($n = 4$) or low anxiety ($n = 2$). Additionally, the differences on overall IBT scores between high and low anxiety students approached significance at $t(19) = -1.98$, $p < .06$.

High and low irrational thought. There were no significant differences in mean FLCAS scores, final grades, or TOEFL scores between students with high and low levels of irrational thought.

Summary of analysis by level of anxiety and irrational thought. These results further support Hypothesis six, that anxiety level is negatively correlated with grades for Russian and Spanish

students. Based on the t-test between high and low anxiety students' IBT scores, which approached significance, the results better support the possibility that there is a positive correlation between anxiety and irrational thought that warrants further investigation. The test of differences between high and low irrational thought students' FLCAS scores (essentially the reverse of the relationship just discussed) was less significant at $p < .20$, but might also be used as support for further investigating the relationship between language anxiety and irrational thought.

Discussion

Analysis of the data in this study did not reveal the anticipated results, nor generally support Hypotheses 1 through 5. The findings presented here suggest that there is not a significant relationship between foreign and second students' reported levels of language anxiety and irrational thought. However, strong and significant correlations between certain subgroups of participants are of interest and warrant additional investigation. For example, a more detailed and rigorous analysis of data should be conducted concerning the anxiety levels of male students of Russian, who exhibited the highest overall levels of anxiety and highest correlations between language anxiety and irrational thought. Additionally, gender differences reflected in female students' generally lower correlations between the FLCAS and IBT and mean scores on the FLCAS require more detailed analyses. Finally, results of tests between scores of students with high and low anxiety and irrational thought suggest that the relationship between language anxiety and irrational thought be investigated further.

With regard to differences in mean scores on the FLCAS, both male and female students of Russian displayed higher levels of language anxiety than Spanish students, but it was surprising to note that these differences were not significant. The most surprising result, however, was that ESL students generally showed lower rather than higher levels of both language anxiety and irrational thought. Further analysis of proficiency data and levels of study might reveal more insight into this phenomenon. One explanation may lie in the timing of the data collection. Because of unavoidable scheduling conflicts at MIIS, ESL students were not administered the surveys until the third or fourth week of instruction, whereas Russian and ESL students completed them during the first and second weeks of instruction. This extra time may have been

sufficient to allow ESL students to become less anxious and to report lower levels of irrational thought than they might have reported in the first weeks of instruction. Additionally, if it were to hold true that basic learners experience more anxiety and hold higher levels of irrational thought, then an analysis that excluded basic Russian and Spanish students might reveal different results, as all ESL students were at the intermediate or advanced level.

In fact, further analysis of all aspects of level of instruction, as was done here for language of instruction, is warranted. Unfortunately, the small sample size makes analysis that simultaneously considers level, language and gender meaningless because some such samples would be too small. For example, there are very few male students at each level of Russian and Spanish instruction (i.e. 1 advanced male Spanish student and 2 advanced and intermediate male Russian students).

Additionally, the few significant differences that were revealed (i.e. Russian/ESL differences in language anxiety and male students' differences in irrational thought) might be better analyzed with regard to not only level of instruction, but also the purpose of enrollment and previous language learning experience. Although information on the extent of previous language learning experience was collected for this study (but not yet analyzed), data regarding specific purpose or motivation for enrollment was not collected.

Regarding the relationship between anxiety and achievement, results were comparable to those of previous research, with a moderate negative correlation between FLCAS scores and final grades or TOEFL scores. These results support accepting Hypothesis 6. As with mean differences for FLCAS scores, the data for male Russian students were the strongest. Despite the overall weak results of this study, additional investigation of the differences and relationships observed for Russian students, particularly male students of Russian, is warranted.

With regard to the relationship between IBT scores and final grades or TOEFL score, there was no strong evidence to suggest that irrational thought affects achievement in the foreign language classroom as presented in Hypothesis 7. Given the lack of power displayed in the IBT results, additional research should be conducted using different instruments for measuring beliefs, such as DiGuiseppe's ABS-II discussed earlier. The possible exception to completely rejecting Hypothesis 7 based on the present results are again with male Russian students who displayed a moderate negative correlation between final grades and the overall IBT score. Additionally, regression analysis indicated that the Perfectionism and Demand for Approval subscales combine to predict 98% of the effect of final grades on irrational thought for these students.

In summary, the results presented here do not support the idea that there is a relationship between language anxiety and irrational thought that is based on both variables' previously established relationships with test anxiety, fear of negative evaluation, and communication apprehension. Likewise, there is not sufficient evidence to suggest that irrational thought affects classroom achievement, except for certain subgroups (male Russian students in this case). On the other hand, the present results support those of previous research regarding the moderate negative effect of language anxiety on classroom achievement.

Suggestions for Additional Research

Overall, there are several aspects of this study that, with additional research or replication, might produce more conclusive results. The foremost of these would be the selection of an alternative instrument for assessing beliefs. Additionally, increasing the power of the significance tests with larger samples would allow for more reliable and detailed analyses. In investigating university students in summer intensive language programs, such an analysis would require the

use of data collected from more than one institution (because of the intended limited class sizes), which might introduce additional confounding variables. Larger sample sizes would also allow for better analysis of the data based on instructional level. Although this study did not look at differences and correlations based on instructional level, some preliminary analysis suggests that there may be significant effects between anxiety, irrational thought, and classroom achievement based on instructional level.

It has longed been recognized that analysis of affective variables such as anxiety and beliefs is difficult to quantify. As was mentioned earlier, much of the initial research in language anxiety met with inconclusive results similar to those obtained in the present study. One strategy that has been used to is to consider learners' personality types, motivation, learning styles, and/or strategies (Oxford & Ehrman, 1995). Future research regarding relationships between anxiety and beliefs should attempt to consider these factors (M. E. Ehrman, personal communication, November 23, 1996; B. Leaver, personal communication, December 29, 1996).

As previously mentioned, the recurring differences and correlations noted among male Russian students serve as justification to conduct additional research regarding Russian students in defining whether there does seem to be a need for intervention of high levels of anxiety and irrational thought.

Conclusion

Although the results are largely inconclusive, this study serves as the only to date (as best as can be determined in consulting with the primary researchers of both language anxiety and irrational beliefs) that has attempted to find a relationship between language anxiety and irrational beliefs, as well as effects on foreign language classroom achievement by irrational thought. Although the results suggest that there would be no benefit in applying anxiety reducing techniques such as REBT in foreign and second language classrooms, I believe it would be premature to make such a conclusion.

Related research has found the relationships hypothesized here in other instructional areas. Rather than completely rejecting the hypotheses for which results were inconclusive or weak, I suggest that future research take into account many of the suggestions presented above in improving upon the present design to continue to investigate these relationships. Specifically, a larger sample; standardized proficiency measures; a more reliable beliefs instrument; consideration of personality, learning styles, etc.; and analysis by instructional level might provide additional insight to the relationships investigated here.

References

Aida, Y. (1994). Examination of Horwitz, Horwitz, and Cope's construct of foreign language anxiety: The case of Japanese students. Modern Language Journal, 78, 155-168.

Ambler, B., & Elkins, M. (1986, November). Defining and confirming the relationship between irrational beliefs and communication apprehension: An extension. Paper presented at the annual meeting of the Speech Communication Association, Chicago, IL. (ERIC Document Reproduction Service No. ED 278 081)

American Psychiatric Association. (1994). Diagnostic and statistical manual of mental disorders. (4th ed.). Washington, DC: Author.

Ayers, J., & Hopf, T. (1987). Visualization, systematic desensitization, and rational emotive therapy: A comparative evaluation. Communication Education, 36, 236-240.

Baither, R. C., & Godsey, R. (1979). Rational emotive education and relaxation training in large group treatment of test anxiety. Psychological Reports, 45, 326.

Barabasz, A. F., & Barabasz, M. (1981). Effects of rational-emotive therapy on psychophysiological and reported measures of test anxiety arousal. Journal of Clinical Psychology, 37, 511-514.

Beck, A. T. (1967). Depression: Causes and treatment. Philadelphia: University of Pennsylvania.

Conoley, J. C. (1989). Cognitive-behavioral approaches and prevention in the schools. In J. N. Hughes & R. J. Hall (Eds.), Cognitive-behavioral psychology in the schools (pp. 535-568). New York: Guilford.

Cramer, Duncan. (1985). An item factor analysis of the Irrational Beliefs Test. British Journal of Cognitive Psychotherapy, 3(1), 70-76.

Davison, G. C., Feldman, P. M., & Osborn, C. E. (1984). Articulated thoughts, irrational beliefs, and fear of negative evaluation. Cognitive Therapy and Research, 8, 349-362.

DiGiuseppe, R. (1988). Attitudes and Belief Scale-II. Unpublished instrument. New York: Institute for Rational-Emotive Therapy.

Dryden, W., & DiGuiseppe, R. (1990). A primer on rational-emotive therapy. Champaign, IL: Research Press.

Ehrman, M. E., & Oxford, R. L. (1995). Cognition plus: The correlates of language learning success. Modern Language Journal, 79, 67-89.

Ellis, A. (1972). Rational-emotive psychotherapy: A comprehensive approach to psychotherapy. In G. D. Goldman & D. S. Milman (Eds.), Innovations in psychotherapy. Springfield, IL: Thomas.

Ellis, A. (1973). Humanistic psychotherapy: The rational-emotive approach. New York: Julian.

Ellis, A. (1994). Reason and emotion in psychotherapy (Rev. ed.). New York: Birch Lane Press.

Forman, S. G., & Forman, B. D. (1980). Rational-emotive staff development. Psychology in the Schools, 17, 90-95.

Foss, K. A., & Reitzel, A. C. (1988). A relational model for managing second language anxiety. TESOL Quarterly, 22, 427-454.

Ganschow, L., Sparks, R. L., Anderson, R., Javorsky, J., Skinner, S., & Patton, J. (1994). Differences in language performance among high-, average-, and low-anxious college foreign language learners. Modern Language Journal, 78, 41-55.

Gardner, R. C. (1985). Social psychology and second language learning: The role of attitudes and motivation. London: Edward Arnold.

Gardner, R. C., & Lambert, R. E. (1972). Attitudes and motivation in second-language learning. Rowley, MA: Newbury House.

Gardner, R. C., & MacIntyre, P. D. (1993). On the measurement of affective variables in second language learning. Language Learning, 43, 157-194.

Gitlin, D. E., & Tucker, C. M. (1988). Ability to discriminate rational responses to items on the Irrational Beliefs Test as a predictor of rationality and trait anxiety. Psychological Reports, 62, 483-487.

Horwitz, E. K. (1983). Foreign Language Classroom Anxiety Scale. Unpublished instrument. University of Texas, Austin.

Horwitz, E. K. (1986). Preliminary evidence for the reliability and validity of a foreign language anxiety scale. TESOL Quarterly, 20, 559-562.

Horwitz, E. K., Horwitz, M. B., & Cope, J. (1986). Foreign language classroom anxiety. Modern Language Journal, 70, 126-132.

Horwitz, E. K., & Young, D. J. (1991). Language anxiety: From theory and research to classroom implications. Englewood Cliffs, NJ: Prentice Hall.

Jacobs, E., & Croake, J. W. (1976). Rational emotive theory applied to groups. Journal of College Student Personnel, 17, 127-129.

Jones, R. G. (1969). A factored measure of Ellis' irrational beliefs system, with personality and maladjustment correlates. (Doctoral dissertation, Texas Technological College, 1968). Dissertation Abstracts International, 69, 6443.

Knaus, W. J. (1974). Rational emotive education: A manual for elementary school teachers. New York: Institute for Rational-Emotive Therapy.

Lambert, W. E. (1961). A study of the roles of attitudes and motivation in second language learning. (Final Technical Report, November 25, 1961). Washington, DC: United States Office of Education, Department of Health, Education and Welfare. (Contract No. SAE-8817)

Liskin-Gasparro, J. E. (1982). ETS oral proficiency testing manual. Princeton, NJ: Educational Testing Service.

Lohr, J. M., & Bonge D. (1980). Retest reliability of the Irrational Beliefs Test. Psychological Reports, 47, 1314.

Lohr, J. M., & Bonge, D. (1981). On the distinction between illogical and irrational beliefs and their relationship to anxiety. Psychological Reports, 48, 191-194.

Lohr, J. M., & Bonge, D. (1982). The factorial validity of the Irrational Beliefs Test: A psychometric investigation. Cognitive Therapy and Research, 6, 225-230.

MacIntyre, P. D. (1995). How does anxiety affect second language learning? A reply to Sparks and Ganschow. Modern Language Journal, 79, 90-99.

MacIntyre, P. D., & Gardner, R. C. (1989). Anxiety and second language learning: Toward a theoretical clarification. Language Learning, 39, 251-257.

MacIntyre, P. D., & Gardner, R. C. (1991). Investigating language class anxiety using the focused essay technique. Modern Language Journal, 75, 296-304.

Martin, L. M., Dolliver, R. H., & Irvin, J. A. (1977). A construct validity of five measures of irrational beliefs. Rational Living, 12(1), 20-24.

McCroskey, J. C. (1970). Measures of communication-bound anxiety. Speech Monographs, 37, 269-277.

McReynolds, R. A., Morris, R. J., & Kratochwill, T. R. (1989). Cognitive-behavioral treatment of school related fears and anxieties. In J. N. Hughes & R. J. Hall (Eds.), Cognitive-behavioral psychology in the schools (pp. 434-465). New York: Guilford.

Newman, C. F. (1994). Cognitive therapy of anxiety disorders. In B. B. Wolman & G. Stricker (Eds.), Anxiety and related disorders: A handbook (pp. 376-400). New York: John Wiley & Sons.

Oneill, M. A. (1985). The role of language in the rational emotive education approach., test anxiety, male vs. female 6th graders. (Doctoral dissertation, University of San Francisco, 1985). Dissertation Abstracts International, 46, 1566.

Paul, G. L. (1966). Insight vs. desensitization in psychotherapy. Stanford, CA: Stanford University.

Phillips, E. M. (1992). The effects of language anxiety on students' oral test performance and attitudes. Modern Language Journal, 76, 14-26.

Ray, J. B., & Bak, J. S. (1980). Comparison and cross-validation of the Irrational Beliefs Test and the Rational Behavior Inventory. Psychological Reports, 46, 541-542.

Robb, H. B., & Warren, R. (1990). Irrational beliefs tests: New insights, new directions. Journal of Cognitive Psychotherapy: An International Quarterly, 4, 303-311.

Saranson, I. G. (1978). The test Anxiety Scale: Concept and research. In C. D. Spielberger & I. G. Saranson (Eds.), Stress and anxiety: Volume 5 (pp. 193-216). Washington, DC: Hemisphere.

Scovel, T. (1978). The effect of affect on foreign language learning: A review of the anxiety research. Language Learning, 28, 129-142.

Schelver, S. R., & Gutsch, K. U. (1983). The effects of self-administered cognitive therapy on social evaluative anxiety. Journal of Clinical Psychology, 39, 658-666.

Schwarzer, R. (1986). Self-related cognition in anxiety and motivation: An introduction. In R. Schwarzer (Ed.), Self-related cognition in anxiety and motivation. (pp. 1-17). Hillsdale, NJ: Erlbaum.

Shorkey, C. T., & Whiteman, V. L. (1977). Development of the Rational Behavior Inventory: Initial validity and reliability. Educational and Psychological Measurement, 37, 527-534

Spielberger, C. D. (1983). Manual for the State-Trait Anxiety Inventory (STAI-Form Y). Palo Alto, CA: Consulting Psychologists Press.

Tittle, M. D. (1995, Winter). Front-page dialogue: A cognitive view of language anxiety (Pt. 1). ACTR Letter (Newsletter of the American Council of Teachers of Russian), 22, 1-5.

Tittle, M. D. (1996a, Spring). Front-page dialogue: A cognitive view of language anxiety (Pt. 2). ACTR Letter (Newsletter of the American Council of Teachers of Russian), 22, 1-2, 5-7, 11, 16-17.

Tittle, M. D. (1996b, November). Managing foreign language classroom anxiety with rational emotive therapy. Paper presented at the annual meeting of the American Council on the Teaching of Foreign Languages, Philadelphia, PA.

Trexler, L. D., & Karst, T. O. (1972). Rational-emotive therapy, placebo, and no-treatment effects on public speaking anxiety. Journal of Abnormal Psychology, 79, 60-67.

Trexler, L. D., & Karst, T. O. (1973). Further validation for a new measure of irrational cognitions. Journal of Personality Assessment, 37, 150-155.

Watson, A. K., & Dodd, C. H. (1984). Alleviating communication apprehension through rational emotive therapy: A comparative evaluation. Communication Education, 33, 257-266.

Watson, D., & Friend, R. (1969). Measurement of social-evaluative anxiety. Journal of Consulting and Clinical Psychology, 33, 448-451.

Wolman, B. B. (1994). Defining anxiety. In B. B. Wolman & G. Stricker (Eds.), Anxiety and related disorders: A handbook (pp. 3-10). New York: John Wiley & Sons.

Woods, P. J. (1992). A study of "belief" and "non-belief" items from the Jones Irrational Beliefs Test with implications for theories of RET. Journal of Rational-Emotive & Cognitive Behavior Therapy, 10(1), 41-52.

Young, D. J. (1990). An investigation of students' perspectives on anxiety and speaking. Foreign Language Annals, 23, 539-553.

Young, D. J. (1991). Creating a low-anxiety classroom environment: What does language anxiety research suggest? Modern Language Journal, 75, 426-439.

Appendix A

Irrational Beliefs Test

Instructions:

This is an inventory of the way you believe and feel about various things. There a number of statements with which you will tend to agree or disagree. For each statement, you should mark your answers as follows, according to your own reaction to that item.

DS = Disagree Strongly

DM = Disagree Moderately

?? = Neither Agree nor Disagree

AM = Agree Moderately

AS = Agree Strongly

It is not necessary to think over any item very long. Mark your answer quickly and go on to the next statement. Be sure to mark how you actually feel about the statement, not how you think you should feel. Try to avoid the neutral or ?? response as much as possible. Select this answer ONLY if you really cannot decide whether you tend to agree or disagree with a statement.

1. It is important to me that others approve of me. DS DM ?? AM AS

2. I hate to fail at anything. DS DM ?? AM AS

3. People who do wrong deserve what they get. DS DM ?? AM AS

4. I usually accept what happens philosophically. DS DM ?? AM AS

5. If a person wants to, he can be happy almost under any circumstance. DS DM ?? AM AS

6. I have a fear of some things that often bother me. DS DM ?? AM AS

7. I usually put off important decisions. DS DM ?? AM AS

8. Everyone needs someone he can depend on for help and advice. DS DM ?? AM AS

9. "A zebra cannot change his stripes." DS DM ?? AM AS

10. There is a right way to do everything. DS DM ?? AM AS

11. I like the respect of others, but I don't have to have it. DS DM ?? AM AS

12. I avoid things I cannot do well. DS DM ?? AM AS

13. Too many evil persons escape the punishment they deserve. DS DM ?? AM AS

14. Frustrations don't upset me. DS DM ?? AM AS

15. People are disturbed not by situations, but by the view they take of them. DS DM ?? AM AS

16. I feel little anxiety over unexpected dangers or future events. DS DM ?? AM AS

17. I try to go ahead and get some irksome tasks behind me when they come up. DS DM ?? AM AS

18. I try to consult an authority on important decisions. DS DM ?? AM AS

19. It is almost impossible to overcome the influences of the past. DS DM ?? AM AS

20. There is no perfect solution to anything. DS DM ?? AM AS

21. I want everyone to like me. DS DM ?? AM AS

22. I don't mind competing in activities where others are better than I. DS DM ?? AM AS

23. Those who do wrong deserve to be blamed. DS DM ?? AM AS

24. Things should be different from the way they are. DS DM ?? AM AS

25. I cause my own moods. DS DM ?? AM AS

26. I often can't get off my mind some concern. DS DM ?? AM AS

27. I avoid facing my problems. DS DM ?? AM AS

28. People need a source of strength outside themselves. DS DM ?? AM AS

29. Just because something once strongly affects your life doesn't mean it needs to do so in the future. DS DM ?? AM AS

30. There is seldom an easy way out of life's difficulties. DS DM ?? AM AS

31. I can like myself even when many others don't. DS DM ?? AM AS

32. I like to succeed at something but don't feel I have to. DS DM ?? AM AS

33. Immorality should be strongly punished. DS DM ?? AM AS

34. I often get disturbed over situations I don't like. DS DM ?? AM AS

35. People who are miserable have usually made themselves that way. DS DM ?? AM AS

36. If I can't keep something from happening, I don't worry about it. DS DM ?? AM AS

37. I usually make decisions as promptly as I can. DS DM ?? AM AS

38. There are certain people that I can depend on greatly. DS DM ?? AM AS

39. People overvalue the influence of the past. DS DM ?? AM AS

40. Some problems will always be with us. DS DM ?? AM AS

41. If others dislike me, that's their problem, not mine. DS DM ?? AM AS

42. It is highly important to me to be successful in everything I do. DS DM ?? AM AS

43. I seldom blame people for their wrongdoings. DS DM ?? AM AS

44. I usually accept things the way they are, even if I don't like them. DS DM ?? AM AS

45. A person won't stay angry or blue long unless he keeps himself that way. DS DM ?? AM AS

46. I can't stand to take chances. DS DM ?? AM AS

47. Life is too short to spend it doing unpleasant tasks. DS DM ?? AM AS

48. I like to stand on my own two feet. DS DM ?? AM AS

49. If I had different experiences I could be more like I want to be. DS DM ?? AM AS

50. Every problem has a correct solution. DS DM ?? AM AS

51. I find it hard to go against what others think. DS DM ?? AM AS

52. I enjoy activities for their own sake, no matter how good I am at them. DS DM ?? AM AS

53. The fear of punishment helps people be good. DS DM ?? AM AS

54. If things annoy me, I just ignore them. DS DM ?? AM AS

55. The more problems a person has, the less happy he will be. DS DM ?? AM AS

56. I am seldom anxious over the future. DS DM ?? AM AS

57. I seldom put things off. DS DM ?? AM AS

58. I am the only one who can really understand and face my problems. DS DM ?? AM AS

59. I seldom think of past experiences as affecting me now. DS DM ?? AM AS

60. We live in a world of chance and probability. DS DM ?? AM AS

61. Although I like approval, it's not a real need for me. DS DM ?? AM AS

62. It bothers me when others are better than I am at something. DS DM ?? AM AS

63. Everyone is basically good. DS DM ?? AM AS

64. I do what I can to get what I want and then don't worry about it. DS DM ?? AM AS

65. Nothing is upsetting in itself - - only in the way you interpret it. DS DM ?? AM AS

66. I worry a lot about certain things in the future. DS DM ?? AM AS

67. It is difficult for me to do unpleasant chores. DS DM ?? AM AS

68. I dislike for others to make my decisions for me. DS DM ?? AM AS

69. We are slaves to our own personal histories. DS DM ?? AM AS

70. There is seldom an ideal solution to anything. DS DM ?? AM AS

71. I often worry about how much people approve of and accept me. DS DM ?? AM AS

72. It upsets me to make mistakes. DS DM ?? AM AS

73. It's unfair that "the rain falls on both the just and unjust." DS DM ?? AM AS

74. I am fairly easygoing about life. DS DM ?? AM AS

75. More people should face up to the unpleasantness of life. DS DM ?? AM AS

76. Sometimes I can't get a fear off my mind. DS DM ?? AM AS

77. A life of ease is seldom rewarding. DS DM ?? AM AS

78. I find it easy to accept advice. DS DM ?? AM AS

79. Once something affects your life, it always will. DS DM ?? AM AS

80. It is better to look for a practical solution than a perfect one. DS DM ?? AM AS

81. I have considerable concern with what people are feeling about me. DS DM ?? AM AS

82. I often become annoyed over little things. DS DM ?? AM AS

83. I usually give someone who has wronged me the benefit of the doubt. DS DM ?? AM AS

84. I dislike responsibility. DS DM ?? AM AS

85. There is never any reason to remain sorrowful for very long. DS DM ?? AM AS

86. I hardly ever think of such things as death or atomic war. DS DM ?? AM AS

87. People are happiest when they have challenges and problems to overcome.	DS DM ?? AM AS
88. I dislike having to depend on others.	DS DM ?? AM AS
89. People never change basically.	DS DM ?? AM AS
90. I feel I must handle things in the right way.	DS DM ?? AM AS
91. It is annoying but not upsetting to be criticized.	DS DM ?? AM AS
92. I'm not afraid to do things that I cannot do well.	DS DM ?? AM AS
93. No one is evil even though his deeds may be.	DS DM ?? AM AS
94. I seldom become upset over the mistakes of others.	DS DM ?? AM AS
95. Man makes his own hell with himself.	DS DM ?? AM AS
96. I find myself planning what I would do in different dangerous situations.	DS DM ?? AM AS
97. If something is necessary, I do it even if unpleasant.	DS DM ?? AM AS
98. I've learned not to expect someone else to be very concerned about my welfare.	DS DM ?? AM AS
99. I don't look on the past with any regrets.	DS DM ?? AM AS
100. There is no such thing as an ideal set of circumstances.	DS DM ?? AM AS
101. If English is not your native language, please indicate how easy or difficult this survey was to understand. (1 = Very Easy, 2 = Easy, 3 = Neither Easy nor Difficult, 4 = Difficult, 5 = Very Difficult)	1 2 3 4 5

Appendix B

Foreign Language Classroom Anxiety Scale

Instructions: This survey is designed to assess the level of anxiety you feel when learning a second language. There are no right or wrong answers to the statements below. There are a number of statements with which you will tend to agree or disagree. For each statement, you should mark your answer as follows, according to your own reaction to that item.

SA = Strongly Agree

A = Agree

N = Neither Agree nor Disagree

D = Disagree

SD = Strongly Disagree

1. I never feel quite sure of myself when I am speaking in my foreign language class.	SA A N D SD
2. I don't worry about making mistakes in language class.	SA A N D SD
3. I tremble when I know that I'm going to be called on in language class.	SA A N D SD
4. It frightens me when I don't understand what the teacher is saying in the foreign language.	SA A N D SD
5. It wouldn't bother me at all to take more foreign language classes.	SA A N D SD
6. During language class, I find myself thinking about things that have nothing to do with the course.	SA A N D SD
7. I keep thinking that the other students are better at languages than I am.	SA A N D SD

8. I am usually at ease during tests in my language class. SA A N D SD

9. I start to panic when I have to speak without preparation in language class. SA A N D SD

10. I worry about the consequences of failing my foreign language class. SA A N D SD

11. I understand why some people get so upset over foreign language class. SA A N D SD

12. In language class, I get so nervous I forget things I know. SA A N D SD

13. It embarrasses me to volunteer answers in my language class. SA A N D SD

14. I would *not* be nervous speaking the foreign language with native speakers. SA A N D SD

15. I get upset when I don't understand what the teacher is correcting. SA A N D SD

16. Even if I am well prepared for language class, I feel anxious about it. SA A N D SD

17. I often feel like not going to my language class. SA A N D SD

18. I feel confident when I speak in foreign language class. SA A N D SD

19. I am afraid that my language teacher is ready to correct every mistake that I make. SA A N D SD

20. I can feel my heart pounding when I am going to be called on in language class. SA A N D SD

21. The more I study for a language class, the more confused I get. SA A N D SD

22. I *don't* feel pressure to prepare very well for language class. SA A N D SD

23. I always feel that the other students speak the foreign language better than I do. SA A N D SD

24. I feel very self-conscious about speaking the foreign language in front of other students. SA A N D SD

25. Language classes move so quickly I worry about getting left behind. SA A N D SD

26. I feel more tense and nervous in my language class than in some other classes. SA A N D SD

27. I get nervous and confused when I am speaking in my language class. SA A N D SD

28. When I am on my way to language class, I feel very sure and relaxed. SA A N D SD

29. I get nervous when I don't understand every word the language teacher says. SA A N D SD

30. I feel overwhelmed by the number of rules you have to learn to speak a foreign language. SA A N D SD

31. I am afraid that the other students will laugh at me when I speak the foreign language. SA A N D SD

32. I would probably feel comfortable around native speakers of the foreign language. SA A N D SD

33. I get nervous when the language teacher asks questions which I haven't prepared in advance. SA A N D SD

34. If English is not your native language, please indicate how easy or difficult this survey was to understand. (1 = Very Easy, 2 = Easy, 3 = Neither Easy nor Difficult, 4 = Difficult, 5 = Very Difficult) 1 2 3 4 5

Table 1

Internal Reliability of the FLCAS and the IBT and Its Subscales

Language	FLCAS	IBT Total	DA	HSE	BP	FR	EI	AO	PA	D	HC	P
All	.92	.79	--	--	--	--	--	--	--	--	--	--
ESL	.90	.71	.26	.60	.70	-.22	.42	.30	.66	.15	.44	.17
Russian	.93	.86	.85	.64	.49	.66	.76	.80	.69	.48	.54	.78
Spanish	.94	.81	.60	.79	.55	.59	.36	.51	.40	.60	.60	.53

Note. 1) Reliability coefficients were not calculated for all languages in individual subscales because of the variation of coefficients between languages. A coefficient of $\alpha \geq .70$ was used to establish reliability of data throughout the study.

Table 2

Summary of Findings

	Hypothesis 1 FLCAS/IBT correlation	Hypothesis 2 Russian vs. Spanish FLCAS means	Hypothesis 3 ESL vs. Russian & Spanish FLCAS mean differences	Hypothesis 4 Russian vs. Spanish IBT mean differences	Hypothesis 5 ESL vs. Russian & Spanish IBT mean differences	Hypothesi FLCAS/ correlatio
Entire Sample	None		Approached significance		None	
By language	ESL	Approached significance	ESL vs. Russian	None	None	Russian
By gender	None		None		Males	
By gender & language	Female ESL	None	Males (ESL vs. Russian)	None	Males (ESL vs. Spanish	None

Note. Darkened areas indicate that entries are not applicable.

Table 3

ANOVA of FLCAS Scores by Gender and Language

FLCAS		*SS*	*df*	*MS*	*F*	*Sig.*
Main Effects	Combined	3150.40	3	1050.14	2.575	.059
	Language	**2591.61**	**2**	**1295.81**	**3.177**	**.047**
	Gender	751.27	1	751.27	1.842	.178
Interaction Effects	Gender x Language	298.34	2	149.17	.366	.695
Model		3206.29	5	641.26	1.572	.176
Residual		35889.11	88	407.83		
Total		39095.405	93	420.38		

Note: Shaded blocks indicate significant differences at $p < .05$

Table 4

ANOVA of IBT Scores by Gender and Language

IBT		*SS*	*df*	*MS*	*F*	*Sig.*
Main Effects	Combined	3191.56	3	1063.85	1.644	.185
	Language	2884.21	2	1442.11	2.228	.114
	Gender	606.86	1	606.86	.938	.336
Interaction Effects	**Gender x Language**	**4560.71**	**2**	**2280.35**	**3.523**	**.034**
Model		5901.92	5	1180.38	1.824	.117
Residual		55659.81	86	647.21		
Total		61561.73	91	676.5		

Note: Shaded blocks indicate significant differences at $p < .05$

Table 5

Mean Scores on the FLCAS and IBT by Gender and Language

	FLCAS				IBT			
	M	*SD*	*Max/Min*	*n*	*M*	*SD*	*Max/Min*	*n*
All Students	87.9	20.5	145/37	94	281.07	26.01	336/222	92
ESL (male & female)	83.91	17.82	124/45	41	282.64	22.5	317/225	39
Russian (male & female)	95.9	20.35	145/65	23	285	29.75	336/232	23
Spanish (male & female)	84.9	22.71	131/37	30	276.02	27.31	320/222	30
Males (all languages)	90.36	20.63	131/45	33	279.99	24.61	327/222	32
ESL	84.88	20.05	124/45	17	289.93	18.65	316/248	16
Russian	103.0	20.57	131/78	8	280.75	28.68	327/243	8
Spanish	89.38	18.62	109/53	8	259.38	20.04	283/222	8
Females (all languages)	85.43	20.4	145/37	61	281.64	26.91	336/225	60
ESL	83.22	16.47	114/60	24	277.57	23.91	317/225	23
Russian	92.11	19.87	145/65	15	287.27	31.05	336/232	15
Spanish	83.27	24.21	131/37	22	282.07	27.43	320/228	22

Table 6

Intercorrelation between the FLCAS and the IBT and Its Subscales

	IBT Total	DA	HSE	BP	FR	EI	AO	PA	D	HC	P
All Students	.166	.104	.182	.166	.016	.032	.055	.191	-.088	.010	.118
ESL (male & female)	.411**	.398*	.335*	.136	.060	.075	.066	.201	.251	.298	.026
Russian (male & female)	.122	-.136	.142	.576**	.085	.099	-.007	.003	-.287	.002	.204
Spanish (male & female)	-.012	.192	-.004	-.073	-.189	-.099	.113	.259	-.262	-.198	.148
Male (All languages)	.302	.215	.076	.421*	.331	.169	.099	.322	-.283	-.019	.036
ESL	.369	.301	.028	.215	.124	-.062	-.403	.378	.074	.339	-.162
Russian	.680	.148	.148	.940**	.801*	.566	.555	.304	-.607	-.372	.653
Spanish	.375	.786*	.253	.316	-.297	.220	.345	.129	-.516	-.107	-.059
Female (All languages)	.108	.041	.248	.053	-.071	-.085	.056	.125	.006	.027	.156
ESL	.468*	.507*	.513*	.092	.027	.153	.317	.074	.394	.287	.174
Russian	-.095	-.257	.274	.297	-.133	-.213	-.182	-.167	-.034	.194	.056
Spanish	-.028	.104	.036	-.079	-.168	-.141	.041	.312	-.261	-.182	.227

Note. The listed coefficients are all between the listed scale/subscale and the FLCAS. Shaded values indicate the correlation was both significant and reliable.

* $p < .05$ ** $p < .01$

Table 7

t-tests for Mean Differences on FLCAS

	M	*S.D.*	*n*	*t*	*df*	*Sig.*
Languages						
Russian / ESL	**95.90 / 83.91**	**20.35 / 17.82**	**23 / 41**	**-2.454**	**62**	**.017**
Russian / ESL (Males only)	**103 / 84.88**	**20.57 / 20.05**	**8 / 17**	**-2.091**	**23**	**.048**
Russian / ESL (Females only)	92.11 / 83.22	19.87 / 16.47	15 / 24	-1.515	37	.138
Spanish / ESL	84.90 / 83.90	22.71 / 17.82	30 / 41	-.206	69	.837
Spanish / ESL (Males only)	89. 38 / 84.88	18.62 / 20.05	8 / 17	-.534	23	.598
Spanish / ESL (Females only)	83.27 / 83.22	24.21 / 16.47	22 / 24	-.008	44	.993
Russian / Spanish	95.90 / 84.90	20.35 / 22.71	23 / 30	1.83	51	.074
Russian / Spanish (Males only)	103 / 89.38	20.57 / 18.62	8 / 8	1.39	14	.187
Russian / Spanish (Females only)	92.11 / 83.27	19.87 / 24.21	15 / 22	.537	35	.595

Note: Shaded blocks indicate significant differences at $p < .05$

Table 8

ANOVA of FLCAS Scores Across Languages

		SS	*df*	*MS*	*F*	*Sig.*
FLCAS	Between Languages	2342.45	2	1171.23	2.90	.060
	Within Languages	36752.95	91	403.88		
	Total	39095.41	93			
FLCAS (Males only)	Between Languages	1795.89	2	897.95	2.279	.120
	Within Languages	11820.51	30	394.02		
	Total	13616.40	32			
FLCAS (Females only)	Between Languages	889.02	2	444.51	1.071	.349
	Within Languages	24068.61	58	414.98		
	Total	24957.63	60			

Table 9

t-tests for Mean Differences on the IBT

	M	*S.D.*	*n*	*t*	*df*	*Sig.*
Languages						
Russian / ESL	285 / 282.64	29.75 / 22.50	23 / 39	-.354	60	.725
Russian / ESL (Males only)	280.75 / 289.93	28.68 / 18.64	8 / 16	.949	22	.353
Russian / ESL (Females only)	287.27 / 277.57	31.05 / 23.91	15 / 23	-1.086	36	.285
Spanish / ESL	276.02 / 282.64	27.31 / 22.50	30 / 39	1.103	67	.274
Spanish / ESL (Males only)	259.38 / 289.93	20.04 / 18.64	8 / 16	3.694	22	.001
Spanish / ESL (Females only)	282.07 / 277.57	27.43 / 23.91	22 / 23	-.588	43	.560
Russian / Spanish	285 / 276.02	29.75 / 27.31	23 / 30	1.142	51	.259
Russian / Spanish (Males only)	280.75 / 259.38	28.68 / 20.04	8 / 8	1.728	14	.106
Russian / Spanish (Females only)	287.27 / 282.07	31.05 / 27.43	15 / 22	.537	35	.595

Note: Shaded blocks indicate significant differences at $p < .05$

Table 10

ANOVA of IBT Scores Across Languages

		SS	*df*	*MS*	*F*	*Sig.*
IBT	Between Languages	1216.78	2	608.39	.897	.411
	Within Languages	60344.95	89	678.03		
	Total	61561.73	91			
IBT (Males only)	Between Languages	4984.14	2	2492.07	5.243	.011
	Within Languages	13783.82	29	475.304		
	Total	18767.96	31			
IBT (Females only)	Between Languages	861.02	2	430.51	.586	.560
	Within Languages	41875.99	57	734.67		
	Total	42737.02	61			

Table 11

Mean Scores on the TOEFL (ESL Students) and Final Grades (Russian & Spanish Students)

	TOEFL				Final Grades			
	M	*SD*	*Max/Min*	*n*	*M*	*SD*	*Max/Min*	*n*
ESL	508.64	73.58	593/307	19				
Russian					3.36	.614	4.0/1.89	23
Spanish					3.28	.881	4.0/.89	28
Males								
ESL	483.8	83.95	563/307	10				
Russian					3.32	.706	4.0/2.0	8
Spanish					3.22	.617	4.0/2.3	7
Females								
ESL	536.33	51.16	593/473	9				
Russian					3.38	.585	4.0/1.89	15
Spanish					3.30	.965	4.0/.89	21

Note. Darkened areas indicate that entries are not applicable.

Table 12

Intercorrelation between Final Grades or TOEFL Scores and the FLCAS and IBT (including subscales) by Language Only

	FLCAS Total	IBT Total	DA	HSE	BP	FR	EI	AO	PA	D	HC	P
ESL	-.241	-.095	.065	.016	-.117	.507*	.349	-.153	-.418	.011	-.357	-.068
Russian	-.418*	-.008	.076	.037	-.332	.011	.001	.003	.148	.095	.022	-.133
Spanish	-.221	.070	.202	-.119	.175	-.086	.069	.116	.104	.480	-.076	.109
Male												
ESL	.183	-.167	.192	.002	-.458	.408	.740*	-.322	-.782**	-.067	-.297	-.171
Russian	-.692	-.467	-.012	-.085	-.741*	-.528	-.058	-.648	-.050	.424	.183	-.768*
Spanish	.074	.790*	.258	.572	-.086	-.286	.820*	.703	.515	-.101	.580	.338
Female												
ESL	-.193	.278	.153	.393	.274	.419	.242	-.342	.401	-.053	-.285	.104
Russian	-.252	.240	.119	.080	.094	.264	-.012	.326	.285	-.124	-.087	.143
Spanish	-.262	-.050	-.324	-.237	.191	-.072	-.027	-.049	.024	.610**	-.182	.063

Note. The listed coefficients are all between the listed scale/subscale and final grade (for Spanish and Russian) or TOEFL (for ESL). Shaded values indicate the correlation was both significant and reliable.

* $p < .05$ ** $p < .01$

Table 13

Mean Scores on the FLCAS and IBT by Level of Anxiety and Irrational Thought

	FLCAS			IBT			Final Grades			TOEFL		
	M	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*
Anxiety												
High-Anxiety	117.81	10.94	16	296.03	21.73	14	3.71	.29	5	461.75	106.32	4
Low-Anxiety	60.36	20.57	11	276.75	27.03	11	2.86	.76	8	452	35.35	2
Irrational Thought												
High Irrational Thought	92.38	20.73	16	317.05	8.58	16	3.58	.73	9	516	119.88	5
Low Irrational Thought	83.85	17.88	19	242.08	8.88	19	3.27	.64	13	524	46.54	3

Table 14

t-tests for Mean Differences on Final Grades, TOEFL, FLCAS, and IBT by Anxiety Level

	M	*S.D.*	*n*	*t*	*df*	*Sig.*
Final Grades (Russian & Spanish)						
High Anxiety / Low Anxiety	**2.86 / 3.71**	**.763 / .291**	**8 / 5**	**2.352**	**11**	**.038**
TOEFL (ESL)						
High Anxiety / Low Anxiety	461.75 / 452	106.32 / 35.35	4 / 2	- 120	4	.910
FLCAS						
High Anxiety / Low Anxiety	**117.81 / 60.36**	**10.94 / 10.08**	**16 / 11**	**-13.831**	**25**	**.000**
IBT						
High Anxiety / Low Anxiety	296.03 / 278.75	21.73 / 27.03	14 / 11	-1.98	23	.060

Note: Shaded blocks indicate significant differences at $p < .05$

Table 15

t-tests for Mean Differences on Final Grades, TOEFL, FLCAS, and IBT by Level of Irrational Thought

	M	*S.D.*	*n*	*t*	*df*	*Sig.*
Final Grades (Russian & Spanish)						
High Irrational Thought / Low Irrational Thought	3.58 / 3.27	.731 / .643	9 / 13	-1.069	20	.298
TOEFL (ESL)						
High Irrational Thought / Low Irrational Thought	516 / 524.67	119.88 / 46.54	5 / 3	.11	6	.917
FLCAS						
High Irrational Thought / Low Irrational Thought	92.38 / 83.85	20.73 / 17.88	16 / 19	-1.31	33	.200
IBT						
High Irrational Thought / Low Irrational Thought	**317.05 / 242.08**	**8.58 / 8.88**	**16 / 19**	**-25.277**	**33**	**.000**

Note. Shaded blocks indicate significant differences at $p < .05$